



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE PLACE OF MANUAL ARTS IN THE SECONDARY SCHOOLS¹

WALTER SARGENT

School of Education, The University of Chicago

The place of the manual arts in secondary schools is the subject for discussion in many educational meetings at present. It presents two phases, either of which is sufficiently important for a single discussion, but in a gathering so significant as this it seems to me that it would be better to touch briefly upon both phases, rather than to omit either. The two phases are these: the industrial arts, which relate to the shaping of material into forms that are to be of use, and the fine arts, which relate to the producing of things of beauty, either to be of use or created for the sake of aesthetic contemplation.

I wish to speak first of the industrial arts as a cultural subject. I think no one can watch the progress of this work in the schools without feeling that the skill and knowledge and foresight and persistence of effort and command of powers necessary to shape raw material into predetermined forms cannot but be valuable for every person, no matter what his future occupation is to be. The industrial arts offer a sort of training that cannot be omitted from general education without a loss for which there is no adequate compensation.

It is not unlikely that development of ability to bring order out of materials previously unrelated, to shape them so that they embody a plan, is the best training for ability to bring order out of chaos of ideas and to think clearly. The increase of mental power that comes from shaping material to express one's ideas has been sometimes overlooked, and we need to consider it carefully in formulating a course for high schools. I suggest here-

¹ An address delivered at the Twenty-second Educational Conference of the Academies and High Schools in Relations with the University of Chicago, November 19, 1909.

with some of the results that are observable in actual practice where this sort of work with material is present. If a pupil is to express an idea of his own in construction he has to follow some such steps as these: First, he must have a clear notion of the thing he wants to make. For example, if he wishes to build a birdhouse, he has to make his idea definite and concrete; he finds that instead of a general idea of a birdhouse he must have a definite image. This involves a sort of thinking that probably would not come if he did not intend to materialize that idea. After he has made his thought definite, he has to draw plans to exact measurements, so that he knows the amount of material he is going to use and how it is to be cut. Lastly he must have the technical skill to produce with the material at his command a birdhouse that is like the one that he planned. To produce a thing as at first planned is a very different thing from starting to produce a certain thing and having it turn out to be something else, and the sort of training that leads a person to be able to realize his ideas, to produce a thing which shall correspond to the plan in his mind, is an eminently cultural sort of training. Such training brings a vivid realization of the gap that exists between one's first vague thought and the actual result in three dimensions. That is observable in boys who come to high schools and try for the first time to accomplish projects in construction. The boy starts in with his work, and after one or two lessons realizes, with surprise, how much time it takes to shape a single piece of wood to fit into a certain place. He appreciates the effort that lies before him, and either begs off or is roused into determination to complete the work as he should. This realization of the amount of effort necessary to carry a thing to completion is an important part of an adequate education. If children are trained in handling material from the earlier grades they come to that realization step by step, but if they begin in the secondary school it comes to them as a surprise. If they do not have it in the secondary school they are likely to go out with a confidence which is not grounded in experience. One of the important features which justify the place of the constructive arts in the public school is this training to appreciate the gap between the

idea of the thing one would like and the thing realized in concrete form. That brings also a sane soberness in the face of problems.

A great many of the get-rich-quick schemes would not be undertaken if young people were trained to the accomplishment step by step of the conquest of material. The confidence begotten of experience, that one has the skill to carry out a project, the consciousness that persistent effort well planned will secure results should be gained from manual arts in secondary schools. The young man who has been trained in the high school in the constructive arts should go out into life with the confidence that persistent effort well planned will shape material. Intellectual achievement, alone, can never take the place of that. A person approaching a brook in a meadow may calculate whether he can jump the brook or not by reasoning from statistics how far a man ought to be able to jump, but the confidence that this is within the power of the ordinary man is not the same thing as the confidence in his muscles arising from the fact that he has jumped that brook before. When intellectual confidence is increased also by a sense in the muscles that one can do that thing because he has done it, we have the completed round of education. One comes to appreciate also the scholarship of skill. Some people have the idea that if one trains his brain, skill of hand is something he can get easily at any time; but skill of hand has a part in changing the structure of the brain.

There is a tonic effect in dealing with the unchanging laws of things. The product itself faces the worker in three dimensions as right or wrong after it is done, and that sense of being confronted by the results of the work of one's hands, the feeling that if one does certain things and follows certain laws the results are sure, is an important part of education. One may slip a little in certain problems, such as literature, or Latin, and no harm results, but if in laying a track there is a variance of a few inches, the mistake is fatal. The laws are inevitable. There is an invigorating effect from being brought face to face with these laws of material and being compelled to reckon with them. Anything that helps a person out of ineffectiveness in the presence of the problems of life is cultural.

The manual arts in the secondary schools have not only this cultural value, the value for all, whatever their occupation is to be, but there are emergencies now pressing, that demand industrial education. Manual training is for the purpose of giving that acquaintance with material and its laws which everyone needs; industrial training deals with the making of objects which must meet market standards, and in the producing of which one becomes acquainted with industrial processes and is led to see the interdependence of workers in any system. Many question whether this should come into our school system. A number of experiments are being tried. Technical high schools are being established where industrial education is made the chief end. Half-time courses are being carried on in many places by means of arrangements with local industries. The boys are allowed to work half-time in the schools on the regular academic subjects and half-time in the shops earning money. If they were in the shops all the time they would be so held in the clutch of the industrial system, that they would not be able to see it as a whole. But this relaxation for half the time, and the continued dealing with academic subjects, helps them to reflect a little upon and understand somewhat these industrial methods. In spite of the questions that are raised about bringing commercial ideas into schools, experiments have proved that even in the elementary schools it is valuable to do something toward awakening industrial interests. Four-fifths of the children of the country leave the elementary schools at the end of the seventh or the eighth grade and must of necessity go into unskilled industries that give little pleasure in the work. They pass from one thing to another with no vocational outlook, and by the time they would have gained maturity in the high school most of them have acquired a dislike for work and do not care to prepare themselves for any skilled industry.

Some training which gives an understanding of industrial conditions is valuable. There is an educational value in making things in quantity for use in schools, that deserves more attention than it has received. One interesting result of experiments along this line is the proof that the motive of individual owner-

ship is not necessary to produce interest. Classes which have made things to be used by the school system, such as boxes for crayons, and portfolios for use in the high school, and which have bound school books, and have done some of the school printing have seemed to find fully as much satisfaction in seeing the school-supply team come and carry away the products for use by the city as in carrying them home for personal ownership. It is a question in a republic whether there should not be some training which has its place in the system that is supporting the child, whereby the child may be led step by step to realize that he has some return to make. That is a point to consider when this matter of industrial education is under discussion. The making of such things in the school might change the careless attitude of mind toward public property. The demands for some sort of education of this kind are very insistent, and moreover, whether right or wrong, the public responds to any introduction into education of things that deal with productive processes. Where technical high schools have been established the result has almost always been a great increase in high-school enrolment. This means that many pupils are thus kept in school who otherwise would have gone into unskilled occupations. Moreover, this is also almost universally true, that wherever industrial work is introduced, not only does the other work not suffer, but it is better performed. A boy in an industrial class, when asked how he kept up in his academic studies replied: "I have to get my lessons now or I cannot come in here for this work."

Equally valuable is the manual work for girls, in training them to the intelligent management of the home, which is a business problem, and in dealing with such matters as the making of clothes, millinery, etc.

The second phase in my topic, namely, the place of the fine arts in the secondary schools, has been recognized for a long time and a place on school programmes has been given to drawing and design, but it has too often been a subject to which the authorities gave slight attention. It is very suggestive to compare the honor which has been given to the fine arts, the place they hold in history, and the sacrifices people are willing to make to excel in

them, with the slight recognition which they often receive from educational authorities as educational subjects. The artistic faculties are sometimes not supposed to be practical working faculties. Any attitude toward the fine arts which regards them merely as luxuries means a distinct loss. The result is that while human beings are so built that they demand beauty in their surroundings and in the things with which they have to deal, they are left without training which leads them to discriminate between mere prettiness and that which is beautiful. There can be no adequate appreciation of beauty without some definite training in that line. Mere prettiness depends upon sensational appeal and personal whim. The person who likes only prettiness has no abiding delight in beauty. The enjoyment of beauty depends upon elements that are permanent. One who appreciates beauty has a constant source of pleasure.

To be able to come to such an appreciation of beauty is a necessity for every person if he is to get the most out of the life about him.

I wish to suggest two or three values of the fine arts in education, particularly in the secondary schools. One is their influence on industries. I think every high-school pupil ought to have some knowledge of the beauty that has been attained along the lines of the different crafts in the past and present. The things that the mediaeval workmen were able to produce were often wonderfully beautiful and full of suggestion for the craftsman of today. Knowledge of these is now generally confined to the collector. If such knowledge becomes universal, we shall demand beautiful things, because we shall be so trained as to dislike the ugly and commonplace. A beautiful thing is a delight every time one sees it. This is one means of enabling a man to enjoy his life better. A public demand for beautiful things for common use would mean the transforming of many unskilled into skilled occupations and the raising of the level of civilization. A nation which exports its raw materials to some more skilled nation to be finished up into artistic products is suffering a great loss. The nation that so trains its people as to make them able to

carry products to the highest stage of perfection is solving part of its social and industrial problem.

There is also opportunity for the appreciation of the fine arts in the high school from a historic point of view. Such an appreciation gives the most intimate knowledge of the character of the people who made them. Pupils who study the three orders of architecture cannot come to an appreciation of them without some perception of the character of the people who built them—the simplicity of the Doric, the refinement of the Ionic, the luxury of the Corinthian, but still a luxury held in restraint. A person who looks at temples is looking at an interpretation of the religion represented in such a manner that he is compelled to feel it. The fine arts may play somewhat the same part in cultural education as the classics, when high-school teachers have an adequate acquaintance with the subject. One sometimes wonders if these concrete objects which the people themselves touched do not exert a greater influence over high-school pupils than the classics, because, however much culture may come to the adult from the inspiration of Homer's style, it is nevertheless true that the high-school boy finds the majestic movement of that style somewhat impeded by the necessity of constant reference to the lexicon; he cannot see the thing as a whole, but only in parts, and those parts to people of twentieth-century ideals are not always as much of an inspiration as they might be. The high-school boy is not apt to make the allowance for differences of civilization.

I wish to speak lastly of the purely aesthetic value of the fine arts in secondary schools. The person who appreciates a painting of a fine landscape finds that he is looking at something different from a mere photograph, for a landscape well painted is more than a reproduction of an actual scene. When a painting of sunset is a work of fine art it is because the painter watched it; feeling the change from the full sun to the sunset, the rich sequence of the colors, and the glory of the light. He has studied and drawn and painted it until by and by he is able to express his mood in the presence of it. The great painting is the culmination of many hours of observation and of many sketches. The artist has taken a hint that nature gave him and has carried that

hint to perfection. Nature is always giving hints in the scientific world and in the aesthetic world. Life gives hints, which the writer never takes down stenographically but which he works over until within his book he makes a completed whole that comes out right. That is what the artist does. The person who looks at the painting appreciatively finds a certain phase of nature clearly set forth and carried to perfection. That sort of appreciation and its accompanying delight is a part of education one ought to have. When one stands with appreciation in the presence of a great work of art, there is a reinforcement of the spiritual nature, for art has taken one problem after another, of literature, of music, of form and color, and carried it to a solution and compelled it to reveal its significance. The aesthetic sense does not reason that out, but feels it.

This sort of appreciation is not gained by analysis. It is developed by bringing people into the presence of fine art, not to work upon it, but to let it work upon them. One very unfortunate fact in our school education has been that we have felt we must pursue the scientific method for everything. I think our attitude is changing. In some schools, in addition to the regular school study of music the children are brought together occasionally to listen to the best musician the city can secure.

Our study of the fine arts must include a series of choices between things better and worse, until one comes by contemplating the better and worse to an unerring discrimination of that which is good. And an exceedingly interesting and encouraging fact is that the majority of people, when brought before a series of things, vases, pottery, works of art, and led to discuss the objects and exchange views, even if they are untrained views, will come to a very good appreciation of fine things. Then it remains for the instructor to inject suggestion and stimulus leading them to what seems to be a trustworthy appreciation. Experiments have been made by taking children through galleries and expecting them to come to an appreciation of art by panoramic views, but the results are not encouraging. Children may be led step by step to the appreciation of a picture within the range of their apprehension by awakening in them a wide interest

in the subject. Suppose, for example, the picture is an autumn landscape. If the children collect pictures of autumn and decide which carries the spirit of autumn most truly, if they compare them with descriptions of autumn in literature, and report their own observations of autumn, the chances are that they will develop a sincere appreciation of the picture. A number of experiments are going on, which promise that by and by we shall be able to approach the subject from the aesthetic side; for to have an aesthetic appreciation is to appreciate by feeling. Many pupils in the high schools and elsewhere are led to think that reason is able to conquer all things and that we gain all of our power by activity, forgetting that a great deal of power comes by letting ourselves be worked upon by outside forces as well as by exerting ourselves. Children now go out of high schools knowing how the Roman forum and the Parthenon looked, but I doubt whether any American high-school child ought to go out without knowing what are the best modern solutions in the way of beauty, in homes and business blocks, town and city halls, and other civic structures in which we might take pride, what are the finest modern products in the way of public libraries, bridges, parks, fountains, statuary, etc. In some countries that is made a matter of great attention so that if a stream runs through the town the best talent is employed to try to make it as beautiful as possible. Any addition to the beauty of a town, especially of a rural town, is the greatest aid in bringing the people back to that place and giving them pleasure in their memory of it. The pupils should be trained to know the best designs for street signs and street furniture—such as lights and electrical fixtures, elevated structures, etc.

When our high schools have given acquaintance with industrial problems and have so treated the fine arts that the pupils see their relation to industry, their historical value in interpreting the past and their aesthetic value in giving us joy in the present, they will have gone a long way in solving the problem of the place which the fine and industrial arts should take in the secondary schools.